

QUANG NGAI RURAL DEVELOPMENT PROGRAM (QNRDP) - PHASE 2

Interim Report (First Mission)



VIET NAM-AUSTRALIA

Prepared for

AusAID

62 Northbourne Avenue
CANBERRA ACT 2601

October 2002

VIE1506

Prepared by

URS Sustainable Development
in association with Brown & Root and
World Wide Project Management Services
Project Managers and Consultants
Adelaide Australia

DONOR AGENCY

AusAID

GPO Box 887

Canberra ACT 2601

Ph: +61 2 6206 4769 (Desk Officer), Fax: +61 2 6206 4696

LEAD COUNTERPART AGENCY

Department of Planning and Investment

96 Nguyen Nghiem Street, Quang Ngai Town

Quang Ngai Province, Viet Nam

Ph: +84 55 825701

SPU/PROGRAM OFFICE

93, Le Trung Dinh, Quang Ngai Town

Quang Ngai Province, Viet Nam

Ph: +84 55 816261-6, Fax: +84 55 816260

AUSTRALIAN MANAGING CONTRACTOR

URS Sustainable Development

25 North Terrace

Hackney SA 5069

Ph: +61 8 8366 1000, Fax: +61 8 8366 1001

CONTENTS

Acronyms	ii
1 Introduction	1
1.1 General comments on TOR.....	1
2 General discussion and recommendations	2
3 Comments on livestock-related activities to date	4
4 Recommendations specifically for cattle finishing	6
5 Summary of recommendations for next step	8

ANNEXES

- 1 Activity sheet

Acronyms

ACIAR	Australian Centre for International Agricultural Research
ADP	Agricultural Diversification Project funded by World Bank
DARD	Department of Agriculture and Rural Development
DPI	Department of Planning and Investment
EC	Extension Centre
ED	Extension Department
GDP	Gross Domestic Product
HCMC	Ho Chi Minh City
LSS	Livestock Systems Specialist
LWT	Live Weight
ND	Newcastle Disease
PMU	Program Management Unit
QNRDP	Quang Ngai Rural Development Program
TOR	Terms of Reference
VBARD	Vietnamese Bank for Agriculture and Rural Development
VBP	Vietnamese Bank for the Poor
VND	Vietnamese Dong

1 Introduction

This is the first interim report of the Livestock Systems Specialist (LSS) to the QNRDP, and relates to the period October 9-18 2002, a period of 10 days. The report gives a short summary of the findings of the LSS in response to the Terms of Reference (TOR) and with reference to the situation in Quang Ngai at the present time.

During this first input, the LSS has met with program personnel, local government officials (DPI, Extension Centre, Veterinary Sub-Department) and farmers in all of the current communes, who are involved in cattle finishing demonstrations. See Activity Sheet in Annex 1.

1.1 General comments on TOR

In the light of the experience of the first input, the LSS has the following comments on the TOR:

- The TOR is broad enough to be able to encompass most of the activities that the LSS envisages as being required. Any comments/modifications largely relate to how particular relevant activities could be highlighted for the information of the QNRDP as a whole.
- The LSS is of the opinion that the institutional context in which the livestock activities are conducted is a critical issue at the current time. In other words, development of an operational effective relationship with relevant government departments is an activity which may be highlighted. The LSS understands that QNRDP staff also see this as a critical issue.
- It should be highlighted that any livestock activities should take into account the emerging credit system to be established by QNRDP. Conversely, credit arrangements should be designed to take into account the livestock extension activities.
- It should be highlighted that a livestock strategy is required, developed in response to results from PCPS meetings and an assessment of the prevailing institutional and farming system context. Within such a strategy, the likely differentiation of interventions into those appropriate to lowland and upland areas should be highlighted.
- Given the stage of the QNRDP at the present time, the priority for operating manuals is with cattle and pigs. At this stage the poultry and goats may be considered as of secondary importance.

2 General discussion and recommendations

Livestock income within a system will improve over a period of time in the following ways:

- **Improved livestock productivity with maintenance of current number of "livestock units"** (defined not according to absolute numbers of livestock, but rather weighted values per livestock type -cattle, buffalo, pigs, poultry). This may or may not be accompanied by a shift in the proportions of livestock types (or indeed within species).
- **Increased number of "livestock units"**. There will be increased income even without increases in productivity. Increase in livestock units may be achieved by purchase in of new livestock (often with credit), or increased retention of breeding animals or sale animals for raising for longer periods.

The boundaries of the system under discussion can be set at various levels (e.g. family, village, commune etc). There may be uneven increases or decreases in income from livestock production in sub-systems (e.g. individual families/wealth sectors), at the same time as there are increases/decreases in the whole system.

Improved income generation from livestock production is essentially a household level activity, there are nevertheless higher-level (e.g. commune or above) goods such as quality of inputs and services which may need to be addressed by the project if income generation from livestock is to improve.

The project should sponsor the implementation of a coordinated program of **demonstration** (household/group level) and **improved inputs and services delivery** (e.g **commune level** or above) extension activities aimed at improving livestock productivity and income. Demonstration and Commune level activities will in many cases be linked together for technical reasons. For example a demonstration on improved pig raising may be linked to a commune-wide Swine Fever vaccination program.

The program should consider the use of credit to increase livestock numbers in the light of an analysis of how different extension-credit combinations can contribute to income improvements in the target groups. e.g. should the project provide may medium-term loans for breeding cattle? How is this linked to the extension activities? Will approving such loans limit credit availability for other farmers?

The **choice of technologies** should be based on requests from farmers as expressed through the Participatory Planning Process, and should be further informed through interaction with farmers during the ongoing extension activities, as well as other sources (local authorities, study tours, other projects). The amount of funds invested in any technology delivery should be based on expected economic return.

Whichever technology is selected for extension or as a topic of a demonstration, a high emphasis should be placed on developing farmers capacity to make rational farming business decisions. This will usually involve farmers being able to collect, record and analyse objective data about their farm activities and production.

To support the extension activities, the project should consider carrying out selected **applied research activities**. The purpose of these activities would be to assist in developing technical/extension guidelines and recommendations of existing or future extension activities.

Effectiveness and sustainability will best be served if as much responsibility as possible is given to local agents or **institutions with the appropriate mandate and extension**, who in turn give as much responsibility as possible to the farmers or communities involved in the program. Within the government system, the Extension Centre has the mandate for livestock production-extension activities, and the Sub-Department of Animal Health has the mandate for animal health related activities. Responsibility includes not just the area of extension or service delivery but in extension package identification and development. Decisions on the extent of delegation of responsibility for activities will need to be made on a case by case basis.

Capacity-building of such agents or institutions may be required in order for them to be able to successfully complete such activities. It is expected that training tied closely to farmer-related field activities would make up the great majority of capacity building activities. **An economic contract** system for implementation of activities would be the preferred method.

Livestock extension activities should be closely linked to credit programs. Farmers can be encouraged to form production groups linked to credit, and part of the credit can pay for technical or other services provided to assist with the productive activity.

3 Comments on livestock-related activities to date

The cattle finishing demonstration program is the only livestock activity at present in the QNRDP. It is the first and currently the only activity aimed at showing farmers how to improve income. The Consultant considers that the cattle finishing program is an appropriate response to the PC-PS meetings, where farmers recognised cattle raising as a potential source of income.

The first phase of cattle finishing demonstrations are being managed on an action-research basis. i.e. since it is the first activity of the QNRDP in this area, there is a heavy emphasis on ensuring quality of technical data collection and analysis, and some inputs such as feed.

In general, it can be said that the demonstrations are showcasing a low input-low output cattle finishing system. In other words, the feeding is of low cost and relatively low quality, while the expected output in terms of growth and economic return will also be expected to be of a relatively low level. At the same time, the QNRDP material and staff input time is very high (supply of cattle, sheds, feedbins, eartags, specialist vet attendance, scales, feed-testing, taking feed to farmers, recording, data analysis and management). It may be possible to justify this in the context of an action-research activity, but not possible in the realm of an extension demonstration.

The cattle finishing demonstrations as currently being implemented are showing variable results in terms of technical aspects (growth rates), economic return, and farmer interest.

Technical results: Growth rates average about 380 grams per day (range 0-850g). (There is some suspicion that the weights of the two of the highest gaining cattle are not accurate). These growth rates reflect the relatively low cost-low quality feed being given to the cattle. Growth rates per se are not the most important data to examine: economic return is the most important.

Economic results: Economic results will not be known completely until cattle are sold, but current estimates put average gross margin/head as 340,000 d/head (range -440,000 - 1,300,000), or 280,000 d/head including interest costs. This is an extremely large variation, and reflects some of the various types of cattle that are being fattened (young bulls in good condition vs skinny cattle), and how they seem to be responding to the feed. Some of the variation may be due to poor health of some cattle, which may or may not have been avoidable. i.e. cattle may have a chronic disease which may not be treatable.

Farmer interest: One of the consequences of the relatively low growth rates is that farmers spoken to, seem to have little interest in applying the technology and continuing to fatten cattle this way themselves. While this is a justified comment in some cases where losses are obvious, at the same time it may be a largely premature judgement, since most farmers have not yet calculated the profit and loss, which will be done when the cattle are sold. In the meantime several of the farmers seem to be of the opinion that given the choice of finishing by this method, and raising breeding cattle, they would choose the latter. This is a justifiable position. Cattle finishing is risky to some extent since cattle may prove to be good or poor "doers", and the farmer has to use some effort, expertise and luck in finding the right cattle at the right price at the

right time. When cattle are sold, he has to expend some effort and expertise in getting the right price. Therefore unless finishing can be shown to be significantly more profitable than raising breeding cattle, then farmers will prefer the latter, as similar facilities are required.

Although the demonstrations are not yet completed, current positive outputs of the demonstrations include farmer understanding and knowledge of **cattle selection, markets and use of rice straw**.

Cattle selection: Farmers have a good experience of the types of cattle that can or cannot be fattened. Farmers were initially biased towards buying strong healthy looking young bulls for finishing. On project insistence, skinny older cows (or bulls) were purchased. As a result at some of the sites there are such cattle side by side and farmers are seeing clearly that the skinny cattle are finishing more efficiently. This is a significant attitude change.

Cattle markets: Farmers understand better the importance of paying only meat price for cattle intended for finishing. Farmers commonly pay premiums for young bulls or females due to perceived lifetime production factors. Consequently they may lose money when they buy them for finishing.

Use of rice straw: Farmers can appreciate that, mixed with concentrate feed such as corn, molasses and urea, straw is a valuable resource that can be used for cattle finishing.

Ration: The QNRDP has been extremely cautious in selecting and introducing the ration (which consists of rice straw, molasses, corn, and urea) for cattle finishing. The introductory period for the feed was very long (around 2 weeks), and the final feed has a very high proportion of roughage (about 60%). The urea was not introduced into the feed until 6-8 weeks after the start of the finishing, when it could have been introduced from the beginning at a rate of 3%. The use of molasses in the feed can be justified if it is possible to make it more available than at present, by arranging some kind of distribution system from the sugar factory. If such a system can be established, then it may be extremely cheap and available at certain times of the year but less so at other times, in which case a very high amount of molasses can be used. If it cannot be established, then it may be best to stop using it in rations.

Quantity of feeding: The QNRDP has been extremely assiduous in ensuring that cattle eat as much as they can. This is no mean feat as one of the problems in extending cattle finishing to farmers is to make sure that they feed as much to the cattle as they can eat.

4 Recommendations specifically for cattle finishing

QNRDP should continue cattle finishing demonstrations in the lowland, but review their effectiveness in the upland commune. In continuing the demonstrations, the number of rations considered should be expanded, and include high input-high output feeding systems where economic return will be higher. The ration should be considered as a combination of a concentrate and a roughage. The concentrates considered should be similar to those currently recommended in the Agriculture Diversification Project (ADP).

Feed	1	2	3
Cassava	85	65	44
Corn	0	25	50
Protein Source	10	5	0
Urea	3	3	3
Salt	1	1	1
Bone meal	1	1	2
Total	100	100	100

Notes on the feed:

- a) Protein Source can be Fishmeal, peanut meal, or soybean meal
- b) Molasses can replace cassava on a 1:1 kg Dry Matter basis in cases where molasses is cheaper/more easily available than cassava
- c) Bone Meal should be increased to 2% of rations 1 and 2 if no fishmeal is included in the ration
- d) Choice between rations at demo sites should be based on price and availability. However all ration options should be described to farmers at field days and in technical and extension material. A range of rations should be used to demonstrate that different rations can be used
- e) Roughages should depend on price, quality and availability. Aim to use the best available, e.g. elephant grass. If only rice straw available, then also consider adding rice bran as 10-20 kg per 100 kg of concentrate

In continuing the finishing demonstrations, a range of operational and technical manuals and extension materials will be produced.

In general it is recommended that QNRDP significantly reduces its material and staff inputs to the demonstration protocol. e.g. QNRDP supplies only feed and medicine costs and recording and technical documents to the demo farmer, in addition to training of course. QNRDP should consider establishing coupon system for supply of inputs to demo site farmers.

It is recommended that QNRDP implement further cattle finishing demo sites in each of the three lowland communes in 2003. If possible these should be timed so that cattle can be fattened in time for the Tet. In this case they need to begin by mid-December. These would utilise new extension and technical guidelines.

QNRDP should consider developing what may be termed "2nd stage technologies" vis a vis the cattle finishing demonstrations. These could include:

- elephant grass/other forage establishment;
- improved management of existing elephant grass/forage plots (fertiliser/harvesting); and
- biogas.

QNRDP is well aware that the Extension Centre (EC) is responsible for livestock extension within the Government system, and that they have considerable experience in cattle finishing extension (largely through the ADP). QNRDP is of the opinion that the ED should be closely involved with the program as they have expertise and staff that can add value to the program. The LSS strongly supports this and recommends that QNRDP consider developing a contract system to enable the Extension Department (ED) to take primary frontline responsibility for extension implementation, monitoring and evaluation (including data collection and reporting), albeit with close technical and operational support from the QNRDP. With a close relationship, it may be possible to utilise existing documents etc developed by the ADP. Such a contract is operating with success in the ADP; a QNRDP contract could be based on this system with appropriate modifications. A contract system will take some time to establish, so interim cooperation can be established with EC with staff visits, training etc.

QNRDP should consider stopping the cattle finishing demos in the upland commune, pending a more close analysis of the opportunities to improve income from livestock in this area. In general it can be expected that activities to improve income from livestock production in the uplands area will be markedly different from those in the lowland. It is likely health programs will have a prominent role in the upland areas (e.g. vaccination programs, para-vet training). In such a case the Sub-Department of Veterinary Services will likely have some role. In considering such a program, QNRDP should consider that a target area of greater than one commune may be desirable to improve the efficiency of the activities, given the nature of animal movement and disease, and economies of scale in dealing with service delivery issues.

If cattle finishing becomes well established in the lowland areas, then the spin-off to this will be higher demand for skinny cattle e.g. cull cows and young cattle for finishing. As upland areas are sources for such cattle, then the upland areas will be indirect beneficiaries of the cattle finishing conducted in the lowland. The QNRDP is restricted in its geographical scope, and this will limit the impact of cattle finishing demonstrations on the province wide cattle production system. In contrast the ADP is province wide, and by the end of 2003, will likely have conducted about 12 cattle demonstrations in each district of lowland Quang Ngai, with possible additions. QNRDP can have an synergistic effect with the work of the ADP.

Developing cattle markets to facilitate cattle sales from upland to lowland should be considered.

5 Summary of recommendations for next step

Continue cattle finishing in current communes with new farmers and with expanded, and modified extension and technical recommendations. Reduce project inputs and expand feeding systems to include high input-output system. Preferably start finishing cattle aimed at Tet market. Continue to explore possibilities of improving access to molasses.

Create farmer production/interest group from amongst farmers interested in taking up cattle finishing after current demonstrations. Consider developing second-stage technologies.

Undertake specific study to devise livestock strategy for upland areas. Likely to be significantly different to lowland areas (health, paravets, breeding/genetics, markets). Consider pilot development of live cattle markets.

Develop and implement pig finishing demonstration for lowland areas to begin December-January. Principles of pig finishing similar to cattle i.e. best use of available resources.

Develop breeding cattle interest/demo groups in lowland with emphasis on matching feed supply to production requirements to improve profitability.

Develop effective linkages with DARD (Extension Centre, Veterinary Sub-Department) as a priority. Consider development in medium-long term of contractual relationship.

Devise credit strategy in tandem with livestock extension strategy. Consider credit linked to inputs and services. Consider training attendance as prerequisite for credit. Develop manual for assessment and monitoring of livestock loans. In devising credit system, estimate role of QNRDP credit and broader VBARD/VBP role in achieving project objectives.

Annex 1

Activity sheet

Annex 1: Activity sheet

Day	Time	Activity
October 9	am	Leave Hue, travel Danang to meet Mark Hoey
	pm	Arrive Quang Ngai
		Work in QNRDP Office, reviewing documents
October 10	am/pm	Work in QNRDP reviewing project documents and cattle finishing data Arranging meetings with Extension Centre and Veterinary Sub-Department
	pm	3.00 pm meeting with Mr. Cuong, Veterinary Officer
October 11	am	Document, cattle data review and analysis
	pm	Document, cattle data review and analysis
October 12	am	Visit 2 x cattle finishing sites in Tinh To district
	pm	Work in QNRDP Office, discussions with Mark Hoey
October 13	am	Document Review
	pm	Visit 1 x cattle finishing site, 1 x cattle breeding site Tu Nghia district (non-project)
October 14	am	Visit cattle sites in Duc Phong commune
	pm	Document Review/Report
October 15	am	Meeting Extension Centre
	pm	Document Review/Report
October 16	am	Visit Son Hai district cattle sites x 2
	pm	District Visit with Cao Hoi (Dairy, Beef Cattle)
October 17	am	Meeting Veterinary Sub-Department, Quang Ngai Discussion with Stephen, QNRDP
	pm	Report
October 18		Travel ex-Quang Ngai